UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,915	10/23/2003	Anil Gulati	48361-00067	6526

45200 7590 12/01/2005

PRESTON GATES & ELLIS LLP
1900 MAIN STREET, SUITE 600
IRVINE, CA 92614-7319

EXAMINER	
FETTEROLF, BRANDON J	

ART UNIT	PAPER NUMBER
1642	

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/691,915	GULATI, ANIL	
	Examiner	Art Unit	
	Brandon J. Fetterolf, PhD	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-43* is/are pending in the application.

4a) Of the above claim(s) *14-43* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Gulati, Anil

Response to the Amendment

The Amendment filed on 09/19/2005 in response to the previous Non-Final Office Action (06/17/2005) is acknowledged and has been entered.

Claims 1-3 and 5-43 are pending.

Claims 14-43 have been withdrawn from consideration as being drawn to non-elected inventions.

Claims 1-3 and 5-13 are currently under consideration.

Rejections Maintained:

Claims 1-3, 5 and 13 **remain** rejected under 35 U.S.C. 102(b) as being anticipated by Patterson et al. (IDS, WO 01/00198; 2001).

Patterson et al. (page 2, line 27 to page 3, line 3 and page 6, lines 13-15) discloses a method of treating cancer, i.e. solid tumors, comprising administering to an individual in need thereof a therapeutically effective amount of an endothelin B an inhibitor of an endothelin B-receptor activity. With regards to the endothelin B inhibitor, the WO document teaches (page 8, lines 16-20) that the endothelin inhibitor includes but is not limited to IRL1620. With regards to the cancer, Patterson et al. teaches (page 6, lines 13-28) that cancer includes but is not limited to ovarian, colon, Kaposi's sarcoma, a breast tumor, a melanoma, a prostate tumor, a meningioma and a liver tumor. With regards to the individual, the WO document teaches (page 7, line 4) that the individual is generally a human subject. Patterson et al further teach (page 23, lines 17-19) that the compositions may be administered in conjunction with other compositions for the treatment, including but not limited to chemotherapeutics. Thus, while Patterson et al. describes IRL1620 as an inhibitor of endothelium activity and not an "endothelium agonist", the claimed method of using IRL1620 for the treatment of a solid tumor appears to be the same as the prior art. The office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable

differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989).

Moreover, even though the claims are drawn to a mechanism by which IRL1620 interacts with the endothelin B receptor, the claimed method does not appear to distinguish over the prior art teaching of the same or nearly the same method. The mechanism of action does not have a bearing on the patentability of the invention if the invention was already known or obvious. Mere recognition of latent properties in the prior art does not render nonobvious an otherwise known invention. In re Wiseman, 201 USPQ 658 (CCPA 1979). Granting a patent on the discovery of an unknown but inherent function would remove from the public that which is in the public domain by virtue of its inclusion in, or obviousness from, the prior art. In re Baxter Travenol Labs, 21 USPQ2d 1281 (Fed. Cir. 1991). See M.P.E.P. 2145.

In reference to the rejection, Applicants contend that the prior art does not disclose or suggest a method of treating a solid tumor comprising administering to a mammal in need thereof a therapeutically effective amount of an endothelin B agonist and a therapeutically effective amount of a chemotherapeutic agent. More specifically, Applicants assert that the Patterson et al. reference dos. not disclose at least a therapeutically effective amount of an endothelin B agonist. Rather, Applicants argue that the Patterson et al. reference discloses IL1620 as an inhibitor of endothelium activity (i.e. an antagonist) and not the presently claimed endothelin B agonist. Furthermore, Applicants assert that the present application discloses a method of treating cancer using a therapeutically effective amount of an endothelin B agonist, which selectively increases blood supply to the tumor and increases the delivery and efficacy of the accompanying chemotherapeutic agent.

These arguments have been considered, but are not found persuasive.

In response to Applicants contention that Patterson does not disclose at least a therapeutically effective amount of an endothelin agonist, the Examiner recognizes that Patterson et al. describes IRL1620 as an inhibitor of endothelium activity and not an "endothelium agonist". However, the office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430

(CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989). In this case, the prior art teaches a method of treating cancer comprising administering a therapeutically effective amount of IRL 1620, which appears to be 100% identical to the currently claimed endothelin B agonist of claim 5. Furthermore, while Applicants assert that the references fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., using a therapeutically effective amount of an endothelin B agonist, which selectively increases blood supply to the tumors) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claims 1-3, 5-6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. (IDS, WO 01/00198, 2001) in combination with Rowinsky et al. (N. Engl. J. Med. 1995; 332: 1004-1014).

Patterson *et al* teaches, as applied to claims 1-5 and 13 above, a method of treating a solid tumor comprising administering to a human in need thereof a therapeutically effective amount of IRL1620 and a therapeutically effective amount of a chemotherapeutic agent.

Patterson *et al.* does not teach that the chemotherapeutic agent is paclitaxel.

Rowinsky *et al.* discloses (page 1008, 2nd column to page 1011, 2nd column) paclitaxel and its importance as a chemotherapeutic agent in the treatment of a variety of cancer including but not limited to ovarian cancer, breast cancer, and lung cancer.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the references in order to treat a cancer patient because each of the therapeutics had been individually taught in the prior art to be successful at treating cancer. The instant situation is amenable to the type of analysis set forth in In re Kerkhoven, 205 USPQ 1069 (CCPA 1980) wherein the court held that it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose since the idea of combining them flows logically from their having been individually taught in the prior art. Applying the same logic to the instant method claims, one of ordinary skill in the art would have a reasonable expectation of success that the combination of IRL1620 as taught by Patterson et al and

paclitaxel as taught by Rowinsky et al. could be used in a method for treating a solid tumor. Moreover, the rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination. In re Sernaker, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).

In response to the rejection, Applicants contend that the Examiner has not established a prima facie case of obviousness. In regard to the first criterion of obviousness, Applicants contend that there is no suggestion or motivation in either of the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine the reference teachings. For example, Applicants submit that the Examiner states, "Rowinsky et al. discloses paclitaxel....", while "Patterson et al. teaches ... a method of treating a solid tumor comprising administering to a human in need thereof a therapeutically effective amount of IRL1620 and a therapeutically effective amount of a chemotherapeutic agent." However, Applicants assert that the Patterson et al. reference discloses administering "an *inhibitor of an endothelin receptor activity*, in a therapeutically effect amount (emphasis added) and not a therapeutically effective amount of an endothelin agonist as required by claim 1 of the present application. Applicants further argue Patterson as set forth above, and herein incorporated. In regards to the second criterion of obviousness, Applicants contend, for the reasons set forth above, that there is no reasonable expectation that the combination would be successful. In regards to the third criterion of obviousness, the prior art references do not teach or suggest all the claim limitations. For example, Applicants contend that according to the Examiners own admission, the Patterson et al. reference discloses IRL1620 as an inhibitor of endothelium activity (i.e., an antagonist) and not an "endothelium agonist" as required by claim 1 of the present application.

These arguments have been carefully considered, but are not found persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to

combine the two compositions lies in the fact that each of the compositions have been individual taught by the prior art to be useful for treating cancer and/or solid tumors. As such, it would be prima facie obvious to combine the two compositions in order to form a third composition that is to be used for the very same purpose since the idea of combining them flows logically from them having been individually taught in the prior art, *see* In re Kerkhoven, 205 USPQ 1069 (CCPA 1980). Along the same lines, while Applicant's argue that there is no reasonable expectation that the combination would be successful, Applicants have not provided any factual evidence that one of skill in the art would not have a reasonable expectation of success. As noted above, one of ordinary skill in the art would have a reasonable expectation that the combination of IRL1620 and paclitaxel would be useful for treating cancer and/or solid tumors because each have been individually taught by the prior art to be useful for the same purpose. Lastly, in response to Applicants argument that the Patterson et al. reference fails to meet the claimed limitation of an endothelium agonist, the Examiner recognizes that Patterson et al. describes IRL1620 as an inhibitor of endothelium activity and not an "endothelin agonist". However, the office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989). In this case, the prior art teaches a method of treating cancer comprising administering a therapeutically effective amount of IRL 1620, which appears to be 100% identical to the currently claimed endothelin B agonist of claim 5.

Claims 1-3, 5 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. (IDS, WO 01/00198, 2001).

Patterson *et al* teaches, as applied to claims 1-5 and 13 above, a method of treating a solid tumor comprising administering to a human in need thereof a therapeutically effective amount of IRL1620 in conjunction with therapeutically effective amount of a chemotherapeutic agent.

Patterson *et al.* does not teach that the endothelin B agonist and chemotherapeutic agent are administered simultaneously, as a single composition, as a separate composition or sequentially, wherein the chemotherapeutic agent is administered prior to or after the endothelin B agonist.

However, changes in the sequence of which ingredients are added would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made. The instant situation is amenable to the type of analysis set forth in In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) where the court held that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. See also In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is *prima facie* obvious.). Thus, the claimed variations in Applicants' process with respect to "time" of administration would have been obvious at the time of Applicants' invention, wherein the optimization of time of administration being well within the capabilities of the artisan of ordinary skill at the time of Applicants' invention.

In response to the rejection, Applicants contend that the Examiner has not established a prima facie case of obviousness. As set forth above, Applicants contend that there is not suggestion/motivation and/or expectation of success. In regards to the third criterion of obviousness, the prior art references do not teach or suggest all the claim limitations. For example, Applicants contend that according to the Examiners own admission, the Patterson et al. reference discloses IRL1620 as an inhibitor of endothelium activity (i.e., an antagonist) and not an "endothelium agonist" as required by claim 1 of the present application.

These arguments have been carefully considered, but are not found persuasive.

In response to applicant's argument that the Patterson et al. reference fails to meet the claimed limitation of an endothelium agonist, the Examiner recognizes that Patterson et al. describes IRL1620 as an inhibitor of endothelium activity and not an "endothelin agonist". However, the office does not have the facilities and resources to provide the factual evidence needed in order to establish that the product of the prior art does not possess the same material, structural and functional characteristics of the claimed product. In the absence of evidence to the contrary, the burden is on the applicant to prove that the claimed product is different from those taught by the prior art and to establish patentable differences. See In re Best 562F.2d 1252, 195 USPQ 430 (CCPA 1977) and Ex parte Gray 10 USPQ 2d 1922 (PTO Bd. Pat. App. & Int. 1989). In this case,

the prior art teaches a method of treating cancer comprising administering a therapeutically effective amount of IRL 1620, which appears to be 100% identical to the currently claimed endothelin B agonist of claim 5.

Therefore, NO claim is allowed

All other rejections and/or objections are withdrawn in view of applicant's amendments and arguments there to.

JEFFREY SIEW
SUPERVISORY PATENT EXAMINER
11/21/05

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Fetterolf, PhD whose telephone number is (571)-272-2919. The examiner can normally be reached on Monday through Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Siew can be reached on 571-272-0787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brandon J Fetterolf, PhD
Examiner
Art Unit 1642

BF